March 28, 2005

CERTIFIED RETURN RECEIPT 7099 3220 0009 1975 8111

Mr. Brad Kapple
Evans Grain & Elevator Company
P.O. Box 3765
Ogden, Utah 84409

Subject: Food By-product Management LLC, Permit LA-000191-01
Draft Permit Modification "C"

Dear Mr. Kapple:

Enclosed for your review and comment is a draft permit modification "C" to your land application permit LA-000191-01. This draft permit modification provides for the inclusion of wastewater from Meadow Gold Dairies. Comments on this draft are due no later than April 14, 2005.

The pages of your permit that contain revisions are enclosed. Changes to the permit are highlighted in ***bold italics***. This permit modification reflects the inclusion of center pivot 4, center pivot 5, and the wheel line east of pivot 8 which were approved in 2004.

Also enclosed is the staff analysis used to prepare this draft permit modification.

If you have any questions or need further information, please call me at (208) 373-0252 or contact Paul Wakagawa at (208) 373-0244 or via email at pwakagaw@deq.idaho.gov

Sincerely,

Charles W. Ariss, P.E.
Regional Engineering Manager

attachments

cc: Michael R. McGown, Administrator, Boise Regional Office
Reed Gibby, Food By-product Management LLC, 576 South 650 East, Burley 83318
Charles Robbins, 466 West 2965 South, Logan, Utah 84321
George Grant, Falcon Butte Farms, P.O. Box 119, Paul Idaho 83347
Jon Haakenstad, Meadow Gold Dairies, 1301 W. Bannock, Boise 83707
Richard Huddleston, State Water Quality Office
Paul Wakagawa P.E., Boise Regional Office
SO WLAP File LA-000191-01
BRO file 17.1, FBM, LA-000191, Reading File

C. Facility Information

Legal Name of Permittee	Food By-product Management, Limited Liability Company consisting of Carne, Mr. Reed Gibby, owner and Evans Grain & Elevator Company, Mr. Brad Kapple, owner
Type of Wastewater	Cheese processing wastewater consisting of wash water, sludge (filter reject), and lactose from the Sorrento Lactalis cheese plant in located at 4912 Franklin Road, Nampa, ID 83653 ***and whey from Meadow Gold Dairies located at 1301 W. Bannock St., Boise 83707***
Method of Treatment	Slow rate land application
Type of Facility	Private company formed to deliver and land apply wastewater and lactose from the Sorrento Lactalis cheese plant in Nampa at the Falcon Butte Farm
Facility Location	Land application site is located approximately 5 miles east of Murphy, Idaho
Legal Location	Township 2 South, Range 1 West, part of all of sections 14, 15, 21, 22, 23, 26, 27, and 34
County/USGS Quadrangle	Owyhee / Sinker Butte
Soils on Site	Scism very fine sandy loam
Depth to Ground Water	Approximately 600 feet
Nearest Surface Water	Snake River is located approximately 1½ miles east of the land application site
Responsible Official Mailing Address Phone / Fax	Reed Gibby 576 South 650 East Burley, Idaho 83318 (208) 654-2733 Brad Kapple, Evans Grain & Elevator P. O. Box 3765 Ogden, Utah 84409 (801) 476-0277 / (801) 476-3131
Facility Consultants Mailing Address Phone / Fax	Charles Robbins, Ph.D. 466 West 2965 South Logan, Utah 84321 (435) 753-3203 / (435) 753-3203 Jeff Rau, P.E. Brockway Engineering, P.L.L.C. 2016 North Washington Street Twin Falls, Idaho 83301 (208) 736-8543 / (208) 736-8506

D. Site Specific Permit Conditions

1. The Permittee is allowed to apply wastewater and lactose and treat it on ***1,444*** acres as prescribed in the table below and in accordance with all other applicable permit conditions and schedules. No limit in this table shall be exceeded.

Category	Permit Limits and Conditions
Type of Wastewater	Cheese Processing Wastewater (wash water and sludge) and Lactose from the Sorrento Lactalis cheese plant located in Nampa ***and whey from Meadow Gold Dairies in Boise***. Land application of other type(s) of wastewater shall require DEQ review and approval, including modification of this permit prior to application.
Application Site Area	***1,444 acres, twelve (12)*** hydraulic management units
Application Season	Year-round
Growing Season (GS)	March 1 through October 31
Non-growing Season (NGS)	November 1 through February 28/29
Growing Season Maximum Hydraulic Loading Rate (applies to wastewater and supplemental irrigation water).	Growing Season (GS) Hydraulic Loading Rate shall be no greater than the Irrigation Water Requirement (IWR) using data from the tables of the following University Of Idaho web site: http://www.kimberly.uidaho.edu/water/appndxet/index.shtml. IWR is equal to the Mean IR data from these tables divided by the irrigation system efficiency. In lieu of these tables, current climatic and evaporation data, or 30-year average data may be used to calculate the IWR, as defined in the 1994 Technical Interpretive Supplement, pages IV-6 and IV-7. Assume no carryover soil moisture and a leaching rate of zero in calculating the IWR. Application shall generally follow consumptive use rates for the crop throughout the season.
Non-Growing Season Maximum Hydraulic Loading Rate	The maximum NGS hydraulic loading rate is equal to: Soil AWC – Precipitation $_{NGS}$ + Evapotranspiration $_{NGS}$ for each hydraulic management unit (HMU) using the following values: Soil AWC: 5.76 inches Precip., NGS: 2.71 inches (Nov 1 through Feb 28) ET NGS: 3.04 inches (Nov 1 through Feb 28) Maximum Hydraulic Rate, NGS: 6.09 inches per acre, applies to cropped fields. The allowance in gallons is dependent on the number of acres used for crop production. No application of water is allowed when conditions exist where water can freeze and accumulate on the soil surface to the point that water will runoff and/or pond in low areas; or result in runoff and/or ponding during melt conditions.

D. Site Specific Permit Conditions

Livestock Grazing	A grazing management plan shall be submitted to DEQ for review and approval prior to any grazing activities.
Ground Water Quality	Ground water quality shall be in compliance with *the Ground Water Quality Rule* (GWQR), IDAPA 58.01.11.
Maximum COD Loading, Pounds/acre-day, each HMU	50 pounds/acre-day seasonal average (GS and NGS) for cropped fields using sprinkler application of wastewater. 50 pounds/acre-day annual average for lactose application by truck on fallow fields.
Maximum Nitrogen Loading Rate, pounds/acre-year (from all sources including waste solids and supplemental fertilizers)	150% of crop uptake or University of Idaho Fertility Guide for cropped fields where ***a mixture of Sorrento wash water, Sorrento sludge, and Meadow Gold whey are applied.*** For lactose application on fallow fields, the 150% of crop uptake limit shall apply over a two-year period (fallow year and subsequent year when a crop is grown) or University of Idaho Fertility Guide.
Maximum Phosphorus Loading Rate, pounds/acre-year (from all sources including waste solids and supplemental fertilizers)	None. In the event DEQ determines phosphorus limits are necessary, DEQ shall issue a draft modification to the permit and a staff analysis, and process the modification as provided in IDAPA 58.01.17.400.
Construction Plans	Prior to construction of all wastewater facilities, detailed plans and specifications shall be reviewed and approved by DEQ. Within 30 days of completion of construction, the permittee shall submit as-built plans for review and approval.
Buffer Zones	The following buffer zone distances shall be provided between land application areas and the following: • Inhabited Dwellings: 1,000 feet or more • Public Access Areas: 1,000 feet or more (does not apply to the on-site access road) • Natural Surface Waters: 100 feet or more • Man-made Surface Waters: 50 feet or more BMPs to prevent runoff from the site shall be used in the buffer zones around all areas where runoff may potentially occur.

D. Site Specific Permit Conditions

Wellhead Protection	Buffer zones of 500 feet or more shall be maintained between land application areas and domestic water supplies unless a Department approved capture zone and mixing zone analysis indicates an alternative buffer zone is acceptable. No public water supply wells are located within a ¼ of the site. Note: For any proposed public water supply in the vicinity of the site, buffer zones shall be analyzed on a case-by-case basis. Consult with the DEQ Boise Regional Office to see if a source water assessment has been completed for the area. The default minimum buffer zone is 1,000 feet for public water supply wells.
Posting Requirements	A sign shall be posted at the entrance to the land application site. The sign shall state "Do not enter, Untreated Effluent Application" or equivalent.
Supplemental Irrigation Water Protection	Where wastewater and fresh irrigation water interconnections exist in the distribution system, a DEQ-approved backflow prevention device shall be installed.
Transportation of wastewater and lactose to land application site	Any spills or unauthorized discharge of wastewater or lactose in transport from the Sorrento Lactalis ***or Meadow Gold*** cheese plant to the land application site will be considered a violation of this permit, Section H.2.
Odor Management	The land application facilities and other operations associated with the facility shall not create a public health hazard or nuisance conditions including odors. The site shall be operated in accordance with the Nuisance Odor Management Plan. In the event nuisance odors, verified by DEQ occur, the Plan shall be revised as necessary to eliminate or minimize the reoccurrence of nuisance odors. See Compliance Activity CA-191-04 in Section F.

E. Monitoring Requirements

1.) The permittee shall monitor and measure parameters as stated in the Facility Monitoring Schedule in this section.
2.) Samples shall be collected at times and locations that represent typical environmental and process parameters being monitored.
3.) Appropriate analytical methods, as given in the DEQ *Handbook for Land Application of Municipal and Industrial Wastewater, April 1996*, or as approved by the Idaho Department of Environmental Quality (hereinafter referred to as "DEQ"), shall be employed.
4.) A description of approved sample collection methods, appropriate analytical methods, and QA/QC procedures shall be included in the Operation and Maintenance manual.
5.) Unless otherwise agreed to in writing by the DEQ, data collected and submitted shall include, but not be limited to, the parameters and frequencies in the table on the following page.
6.) Ten (10) soil sample locations shall be selected for each soil management unit. Three (3) soil samples shall be collected at each sample location, one at 0-12 inches, one at 12-24 inches, and one at 24-36 inches ***or to refusal of soil sampling equipment***. The soil samples collected at each depth shall be composited to yield three (3) samples for analysis from each management unit.
7.) Ground water monitoring wells shall be purged a minimum of three (3) casing volumes prior to obtaining a sample of ground water.
8.) Annual reporting of monitoring requirements is described in Section G, Reporting Requirements.
9.) Monitoring locations are defined in Appendix 1, "Environmental Monitoring Serial Numbers".

Facility Monitoring Table

Frequency	Monitoring Point	Description/Type of Monitoring	Parameters
Daily	Flow meter ***and tracking of truck deliveries***	Volume of wastewater (***mixture of Sorrento wash water and sludge, and Meadow Gold whey***) and lactose	Volume (million gallons and acre-inches) to each hydraulic management unit (HMU), record monthly and annually
Monthly	***Mixture of wastewater from storage pond to land application***	Grab sample of wastewater from storage pond or pump discharge	Chemical Oxygen Demand, Total Kjeldahl Nitrogen, Ammonia-Nitrogen, Nitrite + Nitrate-Nitrogen, Total Phosphorus, Chloride, Electrical Conductivity, Potassium, pH
Quarterly in February, May, August, and November	***Mixture of wastewater from storage pond to land application***	Grab sample of wastewater from storage pond or pump discharge	Total Dissolved Inorganic Solids [2]
Quarterly in February, May, August, and November	Lactose	Grab sample	Chemical Oxygen Demand, Total Kjeldahl Nitrogen, Ammonia-Nitrogen, Nitrite + Nitrate-Nitrogen, Total Phosphorus, Chloride, Electrical Conductivity, Potassium, pH, Total Dissolved Inorganic Solids[2]

E. Monitoring Requirements

Frequency	Monitoring Point	Description/Type of Monitoring	Parameters
Annually (July)	***Meadow Gold whey***	***Grab sample***	***Chemical Oxygen Demand, Total Kjeldahl Nitrogen, Ammonia-Nitrogen, Nitrite + Nitrate-Nitrogen, Total Phosphorus, Chloride, Electrical Conductivity, Potassium, pH, Total Dissolved Inorganic Solids[2]***
Annually (July)	Supplemental Irrigation Water	Grab sample	Nitrate-Nitrogen, Total Phosphorous, Total Dissolved Solids
Annually (July)	Farm well	See Note 7	Nitrate-Nitrogen, Total Phosphorus, Total Dissolved Solids, water table elevation, water table depth, total iron, total manganese, chloride, dissolved iron[1], dissolved manganese[1] July 2004 only: calcium, magnesium, sodium, potassium, sulfate, and bicarbonate
Monthly		Calculate IWR for each crop type	Volume (million gallons and acre-inches) for each HMU, record monthly
Approximately every 5 years or each permit cycle (after initial test prior to startup)	Wastewater storage ponds	Seepage rate testing	Conduct seepage testing in accordance with the DEQ uniform seepage test procedures (DEQ program guidance No. MFC-8) or a method approved by the DEQ
Twice per year (April and Nov)	Each soil monitoring unit	See note 6	Electrical Conductivity, Nitrate-Nitrogen, Ammonium Nitrogen, Plant Available Phosphorus, pH
Annually	Each HMU	Crop type and yield (also report if fallow)	Pounds/acre and total pounds per HMU (specify moisture basis)
	Each HMU	Plant tissue analysis: Composite sample of harvested portion	Nitrate-nitrogen, Total Kjeldahl Nitrogen, Total Phosphorus, ash (dry tons/acre)
	Each HMU	Calculate crop nitrogen and phosphorous removal	Pounds/acre and total pounds per HMU
	Each HMU	NGS wastewater loading rate	Inches/NGS

F. Compliance Schedule for Required Activities

The Activities in the following table shall be completed on or before the Completion Date unless modified by the Department in writing.

Compliance Activity Number **Completion Date**	**Compliance Activity Description**
CA-191-01 **Plans and Specifications** **Prior to Construction**	Plans and specifications shall be submitted to DEQ for review and approval prior to construction of all new wastewater facilities, including wastewater offloading, storage pond(s), and irrigation delivery facilities.
CA-191-02 **O&M Manual** **Prior to Startup**	A Plan of Operation (Operation and Maintenance Manual or O&M Manual) for the wastewater land application facilities, incorporating the requirements of this permit, shall be submitted to DEQ for review and comment. The O&M manual shall be designed for use as an operator guide for actual day-to-day operations to meet permit requirements and shall include daily sampling, monitoring, and recordkeeping requirements (including daily & monthly logs to track cumulative loading rates) to insure permit compliance and proper operation of the wastewater treatment facility. A Contingency Plan shall be included as part of the O&M manual. The Contingency Plan shall address, but is not limited to, the following: 1.) Spill Prevention, Containment and Countermeasures 2.) Emergency Response 3.) System Upsets Upon approval, the manual shall be incorporated by reference into this permit and shall be enforceable as a part of this permit.
~~***CA-191-03***~~ ~~***Storage Pond***~~ ~~***November 1, 2004***~~	~~***Additional storage pond requirements. The permittee shall submit plans and specifications for the construction of additional storage for wastewater when conditions do not allow land application (extreme cold, heavy precipitation, snowmelt conditions, crop harvest, etc…).***~~ ~~***The additional storage pond shall be constructed for use prior to the beginning of the 2004 non-growing season.***~~
CA-191-04 **Odor Management Plan** **Three months after permit issuance**	The permittee shall submit an Odor Management Plan to DEQ for review and approval. The Odor Management Plan shall address the cause of odors and include specific design considerations, operation and maintenance procedures, and/or management practices to be employed to minimize the potential for or limit odors. The plan shall include procedures to respond to an odor incident if one occurs, including notification procedures.

Appendix 1
Environmental Monitoring Serial Numbers

HYDRAULIC MANAGEMENT UNITS

Serial Number	Description	Acres
MU-019101	Center Pivot 1	128
MU-019102	Center Pivot 2	125
MU-019103	Center Pivot 3	122
MU-019104	Center Pivot 6	127
MU-019105	Center Pivot 8	126
MU-019106	Center Pivot 9	119
MU-019107	Center Pivot 10	123
MU-019108	Center Pivot 11	128
MU-019109	South Linear (south of pivots 1 and 2)	125
MU-019110	***Center Pivot 4***	***129***
MU-019111	***Center Pivot 5***	***132***
MU-019112	***Wheel line east of pivot 8***	***60***

WASTEWATER SAMPLING POINTS

Serial Number	Description
WW-019101	***Mixture of Sorrento wash water and sludge, and Meadow Gold whey to land application***
WW-019102	Lactose to land application
WW-019103	***Meadow Gold full strength whey***

SUPPLEMENTAL IRRIGATION WATER SAMPLING POINTS

Serial Number	Description
SI-019101	Supplemental irrigation water from the Snake River, sample at on-site fresh water irrigation pond or pump

Appendix 1
Environmental Monitoring Serial Numbers

SOIL MONITORING UNITS

Serial Number	Description	Associated HMU
SU-019101	Center Pivot 1	MU-019101
SU-019102	Center Pivot 2	MU-019102
SU-019103	Center Pivot 3	MU-019103
SU-019104	Center Pivot 6	MU-019104
SU-019105	Center Pivot 8	MU-019105
SU-019106	Center Pivot 9	MU-019106
SU-019107	Center Pivot 10	MU-019107
SU-019108	Center Pivot 11	MU-019108
SU-019109	South Linear	MU-019109
SU-019110	***Center Pivot 4***	***MU-019110***
SU-019111	***Center Pivot 5***	***MU-019111***
SU-019112	***Wheel line east of pivot 8***	***MU-019112***

GROUND WATER MONITORING

Serial Number	Description	Location
GW-019101	On-site farm well	Between center pivot 5 and wheel line area

LAGOONS

Serial Number	Description
LG-019101	Lagoon no. 1 (approximately 0.75 million gallons)
LG-019102	Lagoon no. 2 (see compliance activity CA-191-03)